

REMARKS

This Amendment, filed in reply to the Office Action dated March 12, 2007, is believed to be fully responsive to each point of rejection raised therein. Accordingly, favorable reconsideration on the merits is respectfully requested.

Claims 1-15 remain pending. Claims 2-5 have been rejected under 35 U.S.C. § 112, second paragraph, as being indefinite. Claim 1 has been rejected under 35 U.S.C. § 103 as being unpatentable over Jacobson (U.S.P. 5,961,804). Claims 2-15 have been rejected under 35 U.S.C. § 103 as being unpatentable over Jacobson in view of Gordon (U.S.P. 6,271,823). Applicant respectfully submits the following arguments in traversal of the Section 112 and prior art rejections.

With regard to the rejection of claims 2-3, the Examiner contends that claim 2 is indefinite due to its recitation of "at least one" of several listed optical components. The Examiner contends that the claim may encompass a display including all such elements, but the disclosure does not teach such a device. Applicant submits that the Examiner is attempting to limit the claim recitation to certain disclosed embodiments, which is improper. The specification makes clear that some elements of the list may be used as a specific structure to implement a more generally described element. One skilled in the art would understand the scope of claim 2 in view of Fig. 24 and the supporting text at pages 55-56, for example. In addition, the language of claim 2 complies with requirements for alternative claiming as set forth in MPEP 2173.05(h). Accordingly, Applicant respectfully requests the Section 112 rejection of claim 2, and its dependent claim 3, to be withdrawn.

With regard to claim 4, the Examiner contends that the recitation of a narrower range within the broader range renders the claim indefinite. However, that rationale of indefiniteness

only applies when the narrower range and the broader range are recited in the same claim.

MPEP 2173.05(c). In the current situation, the narrower range is described in a dependent claim.

Therefore, the ranges as claimed are proper.

The Examiner also contends that the recitation of “three or more levels” comprises an infinite number of possible levels. Applicant submits that this is an additional example of the Examiner requiring the claims to be limited to certain embodiments, which is improper. The specification indicates that several different levels are possible that would inform one skilled in the art of the number of tones expressed by the cells. See specification at page 52, for example. Therefore, Applicant submits that the Section 112 rejection of claim 4 and its dependent claim 5 should be withdrawn.

With regard to the prior art rejections, Applicant respectfully submits the following arguments in traversal. Applicant’s invention relates to a monochromatic display, especially a monochromatic display of blue color in the range defined by certain coordinates of the CIE chromaticity diagram. The range provides an output that is appropriate for medical applications. Each picture element of the display includes plural cells, with each cell expressing tones in three or more levels. The invention also prescribes luminance of each picture element at a particular level and also contemplates certain types of display devices, such as an LC panel or an organic EL panel.

Turning to the cited art, Jacobson and Gordon each relates to an electrophoretic display for color images. See Abstract of Gordon and col. 1, lines 23-36 of Jacobson. The electrophoretic display is known as a non-emissive display. Jacobson, col. 1, lines 14-16. The display is provided by color contrast, as charged particles of one color move through a suspension medium of a second color. The particle suspension is disposed between a pair of opposite charged

electrodes, one of which is transparent. When a voltage is applied across the electrodes, the particles migrate toward the electrode of the opposite charge. When a sufficient number of particles become disposed against the transparent electrode, a first color is displayed, but if the particles are not drawn to the transparent electrode, then the color of the suspension medium is displayed.

Gordon teaches an electrophoretic display with enhanced color reproduction. In this regard, the multiple cells per pixel element are each disposed with a different color filter. Col. 6, lines 49-53. Gordon teaches that the cells assume one of two states. The distributed state of cells is one in which the particles of the respective cells become uniformly dispersed through respective suspension fluids. The collected state of the cells is one in which the colored particles collect at their respective electrodes. Col. 6, line 61 to col. 7, line 4. The electrodes of each respective cell become activated depending on the color to be displayed. Col. 7, lines 26-60.

The Examiner contends that Jacobson suggests all features of independent claim 1. Applicant submits that the rejection is not supported for at least three reasons.

First, claim 1 describes each picture element emits light. However, Jacobsen makes clear that the electrophoretic display is non-emissive. Col. 1, lines 14-15.

Second, claim 1 describes that each picture element emits light in a same color. In other words, the display is monochromatic. The Examiner cites the elements of Jacobson Fig. 3a to support the rejection. However, Fig. 3a illustrates color microparticles 330 within a dyed fluid 340. The microparticles 330 necessarily have a color that contrasts with the dyed fluid 340 in order for the contrast-based non-emissive display of Jacobson to be operable. Therefore, each pixel element necessarily has a display of two colors, one for the suspended particle and one for

the suspension fluid. In this regard, the display cannot be monochromatic or display the same color.

Third, the Examiner concedes that Jacobson fails to teach region surrounded by the claimed coordinates of the CIE chromaticity diagram. However, the Examiner cites Official Notice. Applicant would challenge the official notice and request the Examiner to provide a supporting reference that a display (such as the electrophoretic display of Jacobson) would inherently fall within the claimed CIE chromaticity coordinates.

For at least the above reasons, Applicant submits that the rejection of claim 1 should be withdrawn, and the remaining claims should be patentable based on their dependencies.

With further regard to claim 4, this claim describes cells with tones expressed in three or more levels. The Examiner concedes that neither Jacobson nor Gordon teaches the three or more levels but again cites Official Notice. Applicant submits that the electrophoretic displays of Gordon and Jacobson only lend themselves to two states of output -- the collected state and the distributed state. The inclusion of additional states would not be feasible in view of the fact that electrodes maintain a charge to attract the suspended spheres or to not attract the spheres. The system is necessarily binary in nature. Over time, the spheres would either become attracted to the electrode or repelled thereby. Therefore, contrary to the Examiner's contention, the devices of Jacobson and Gordon cannot be modified to operate at three or more levels. Claims 8-11 and 13-15 are patentable based on a similar recitation.

In addition, claim 4 describes intensity modulation or area modulation for each cell being independent of each other. Though the Examiner contends that the independent control is taught by col. 4, lines 19-20 of Gordon, this citation does not support the rejection. The cited portion merely describes the two states (distributed and collected) that may be assumed per cell.

However, the multiple color cells of Gordon must interoperate dependently in order to provide the correct color output. In this regard, the cells must assume one of the distributed or collected state depending on the state of another cell and depending on the color to be displayed. See Gordon, col. 7. Therefore, the cells are not independent as the Examiner contends. Furthermore, the Examiner apparently concedes that time modulation is not expressly taught by Gordon. However, the Examiner contends that time division modulation is suggested by the reference. This position is also incorrect in view of the fact that the cells must interoperate together for the appropriate color to be output. This does not lend itself to time modulation of the cells because then the proper color would either fluctuate or could not be properly displayed at all due to the variation of the electrode voltages over time. Therefore, claim 4 is patentable for this additional reason.

With final regard to claim 4, this claim describes luminance of a particular range. The Examiner contends that blue emissions necessarily have a luminance of the claimed range. To support this position, the Examiner cites to the organic EL display discussed by Hu (U.S.P. 5,932,363). Because Hu relates to a completely different type of display, which is generally considered light emissive, unlike the non-emissive display of Gordon and Jacobson, the Examiner's reliance on Hu is not appropriate. Therefore, claim 4 is patentable for all the above reasons. Claim 5 is patentable based on its dependency.

With further regard to claim 7, this claim describes an organic electroluminescent display, a light emissive display. The references cited by the Examiner are directed to non-emissive displays. The substitution of the organic EL (emissive) display of claim 7 would completely undermine the operations of the (nonemissive) displays of the Jacobson and Gordon references.

Applicant adds claims 16-18 to describe the invention more particularly.

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,



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